SUPPLEMENT TO

COMMERCE REPORTS

DAILY CONSULAR AND TRADE REPORTS
ISSUED BY THE BUREAU OF FOREIGN AND DOMESTIC COMMERCE
DEPARTMENT OF COMMERCE, WASHINGTON, D. C.

Annual Series | No. 20a | December 20, 1919

FINLAND.[a]

By Diplomatic Commissioner Thornwell Haynes, Helsingfors, September 23, 1919.

For Finland the year 1918 began, as 1917 had ended, with a depletion of all necessities, birch-bark and sawdust bread, deaths from hunger, cessation of all commerce, paralyzed industries, and such advertisements in the dailies as "Herring exchanged for potato meal," and "How many cigarettes will you give for a pair of rubbers?"

Disappointing Harvests.

The harvests in 1918 were very small, owing, first, to disturbed labor conditions; second, to a dearth of horses caused by the civil war; third, to heavy and continuous rains at the end of the summer; fourth, to lack of fertilizers; and fifth, to the scant supply of agricultural machines. The last two conditions were, of course, the result of a complete cessation of foreign imports.

Valio, the large cooperative butter export association, says:

> The smallness of the 1918 crop, as compared with that of 1914, was due mostly to the critical conditions of the year. The first part of the summer was very dry, and later there were heavy rains in many parts of the country. During harvest, weather conditions were exceedingly unfavorable, there being continual rains from the beginning of August to the end of November. The shortage of labor, caused by the absence of many young men in the military service, caused also delay in harvesting. The smallness of the oats and barley crops was also partly due to late sowing because of the revolution and to deficiency of seed.

Butter Production—Changes in Foreign Purchasers.

There are no statistics for the production of butter in 1918, but considering the quantities delivered for controlled consumption (8,195,000 pounds) and the 1,153,130 pounds exported as compensation for imported grain and sugar, the amount may be estimated at 9,348,130 pounds.

The growth of the butter industry in Finland has been so marked as to deserve special note. In 1887 Sweden took the greater part, 7,150,000 pounds; Russia, 5,500,000 pounds; Germany, 1,650,000 pounds; Denmark, 733,330 pounds; and England only a small quantity. But in 1894 Denmark was the principal purchaser, with 15,950,000 pounds, and England was next, with 7,700,000 pounds, while Russia took 2,730,000 pounds, and Sweden and Germany, 733,300

[a] Finland proclaimed its independence in December, 1917. It has been recognized by a number of countries, including the United States. This report is unusually full because it is of special interest as the first annual report covering the Republic of Finland.

pounds each. Five years later, however, England became the chief consumer, taking 11,550,000 pounds, while Denmark took 8,065,000 pounds; Sweden, 1,100,000 pounds; Russia, 750,000 pounds; and Germany, 370,000 pounds.

It is said that much Finnish butter now enters England by way of Denmark and arrives at its destination marked "Danish." Finland produces a superior quality of butter and with the incentive given this industry by the well-managed and popular cooperative societies it has a most promising future.

Development of Butter Industry.

The first exports consisted of peasant butter, which naturally was not of the finest quality; but in 1870 the use of cold water and ice was introduced, and it was largely due to this that good butter began to be exported in 1880. From 1868 to 1884 the exports barely exceeded 5,000 tons annually, but later began the operation of cooperative societies, which led to the founding of large creameries and scientific production, whereby the peasants realized higher prices. As a consequence, cattle were better tended and agriculture in general improved, so that to-day in Finland there are thousands of these creameries. This is the case not only in the more advanced districts of the southwest and in the two Ostrobothnian Provinces of Vasa and Uleaborg, but also in the once backward northeastern districts.

In connection with the creameries some skimming centers have been established and many of the peasant dairies use hand separators and other improved machinery.

Large creameries in the port of Hango, the great butter-exporting city, buy frozen cream. From scores of stations, some of them hundreds of miles distant, cream is sent to Hango by rail. During the week the farmers of a community collect their cream, freeze it to a soft mass, and then ship it weekly to Hango.

The machines used in the Hango creameries, as well as those used in all other parts of Finland, come mostly from Sweden and Denmark. While the industry is growing toward the stage reached by Denmark, it could be developed considerably by improvement in the breed of cows, better feeding, and more scientific cultivation and rotation of crops.

Undoubtedly the creamery business is the highest development of modern agriculture in Finland. The production of grain has increased through the attention given to the feeding of cattle; and owing to the demand for cooperation this branch of industry involves a considerable development in the education of the people, with resultant economic advantages to the nation as a whole.

Separators and Other Dairy Machinery.

Chiefly Swedish and domestic separators are sold in Finland, the market for the former being due to cheapness and nearness. The separators of a domestic factory at Helsingfors are well known here and in Russia, Esthonia, and Poland, where they were exported before the war. This factory started a few years before the war and at present has very bright prospects. Naturally, the first necessity for intending exporters to Finland would be to study the Swedish and domestic prices, to be assured as to possibility of competition. Only firms dealing in agricultural machinery and implements keep separators in stock here.

Dairy machinery other than cream separators was imported in pre-war days from Denmark and Germany, the former being considered most up to date and the latter being sold where the chief question was price. During the war the imports of other dairy machinery than separators were reduced to a minimum.

Only a few new dairies have been started during the war; in fact, a considerable number of those that existed previously have ceased to operate, owing to the greatly reduced number of dairy cows, as well as other cattle.

The imports and exports of dairy machinery in Finland during 1913 and 1914 were as follows:

Countries of origin and destination.	1913	1914	Countries of origin and destination.	1913	1914
IMPORTS FROM—	*Pounds.*	*Pounds.*	EXPORTS TO—	*Pounds.*	*Pounds*
Denmark	142,584	85,353	Denmark	14,927	5,742
Germany	293,812	129,842	Germany	54,859	27,469
Netherlands	.....	5,903	Russia	96,494	74,576
Sweden	457,096	465,615	United Kingdom	7,949	10,036

Milk Production—Possible Agricultural Imports—Farm Legislation.

There are no official statistics regarding the 1918 milk production, but, according to the number of milch cows, it is estimated to have been about 785,400 tons.

The following could be imported from the United States: Grain, feedstuffs, fats (such as bacon and lard), dried fruits, agricultural and electrical machinery and accessories, unmanufactured tobacco, edible oils; canned meats, vegetables, and fruits; dairy machinery, and farm implements. Cottonseed oil is unknown here, and as a substitute for lard it would appear to have possibilities. The selling of enormous quantities of American canned, condensed, and evaporated milk during 1919 of course has been due to the abnormal conditions in Finland.

One recent law will seriously affect agriculture—the law that allows the renter to buy his holding, or in case of a desire to continue his tenancy he is permitted to pay his rental in money instead of being required to pay it in labor. As a result, the larger estates will lose their cheap labor; but it is hoped to offset this loss by a greater use of machinery. With ownership, the farmer tenants will become more interested in their work and will have the ability and an incentive to buy modern implements.

The recent eight-hour labor law does not affect labor on the farm.

Agriculture will also be aided by the stipulated minimum prices guaranteed by the State and by the subvention of 10,000,000 marks ($1,250,000) [a] appropriated by the Diet for new lands during 1919, 1920, and 1921.

Prices of Agricultural Products and Requirements.

At present all products of the farm are extremely high when compared with prices in other countries. It was hoped that the imports of grain from the United States during the summer of 1919 would bring them lower, but so far they have had no effect. The

[a] All values in this report that relate to 1918 are calculated at 8 Finnish marks to the dollar, the rate during the year ranging from 7 to 9 marks. The normal rate is 5.18 marks to the dollar, or $0.193.

wages of farm laborers have not decreased but are continually rising. With the diversion of this labor to the expected rehabilitation and post-war industrial and trade prosperity, labor on the farms is expected to grow still more dear.

The continued depreciation of the Finnish mark has produced such an unfavorable foreign exchange that the necessary agricultural implements, as well as artificial fertilizers, have become very expensive. The great expense of importing fertilizers prevents the improvement of the farms, which became exhausted during the war. Until this difficulty is overcome, it will be impossible to raise agriculture to its former standard of productiveness.

Predominating Importance of Finnish Forests.

The characteristic features of a Finnish landscape are forest, land, water, and rock. From these, in the order of importance, come Finland's greatest products and industries—timber, wood pulp, and paper; agricultural products; water power and fish; and granite and building materials.

Finland's forests are its greatest wealth. They gave game for the nomadic inhabitants; and fire, building wood, utensils, and fertilizer when agriculture began. In the center of the country, between the great lakes and the plain bordering the Gulf of Bothnia and along the eastern frontier to the north of Lake Ladoga, the forests are largest and thickest, the principal trees being the pine, spruce, and birch.

During the Middle Ages a few forest products, such as tar, wooden vessels, and firewood, were exported; but exportation on a large scale began with the advent of the sawmill in the middle of the nineteenth century. Since that time forestry products have constituted the country's principal exports.

Great hopes were placed in agriculture, cattle raising, and dairy products, with expectations of eventual markets in Germany and England; but owing to a thin and barren and rocky soil, as well as to exceptionally long winters, in conjunction with cheap electrical power, raw forest materials, cheap labor, and advantageous seaports, these hopes were not fulfilled. From 1896 to 1900 an average of 51,700 tons of wheat was harvested; from 1900 to 1910, an average of 39,380 tons. For the same periods exports of rye decreased from 3,439,700 to 3,149,300 tons; and of barley, from 1,213,520 to 1,185,030 tons. These figures tend to show that the importation of these cereals was cheaper than native production.

Finland's pre-war exports consisted of great quantities of lumber, pit props, chemical pulp, and paper; and since 53.6 per cent of the country is covered with forest, these industries give promise of still greater export development.

State Forests and Scientific Forestry.

Of the total area of Finland, the State possesses 34.7 per cent, or 32,424,161 acres, of which 30,741,998 acres are State forests.

It was only at the beginning of the nineteenth century that the forest value of these Crown lands began to be realized. Even at that time, however, they were still given over rather promiscuously to new colonists or to old estates. In fact, only within the last 20 years has there begun a policy of national economy, which has almost

stopped the practice of giving over forest lands for individual ownership and exploitation.

The income from the State forests in 1918 amounted to about $1,000,000, a figure which, according to many, shows that Finland's great and valuable forests were not utilized to the best advantage.

It was only about 40 years ago that the annually increasing value of timber, wood pulp, and paper exports began to emphasize the destructiveness of forest fires, which sometimes in one year alone destroyed more than 100,000 acres, until to-day scientific forestry is receiving considerable attention. In 1890 it required only 34 trees to make a sawn standard, while in 1900 it necessitated 40 and in 1913 as many as 46. This, however, does not necessarily mean that forests are neglected, but rather that they are more intelligently exploited, inasmuch as the most economical results are obtained by the use of small trees, since growth is very slow after the first 7 or 8 inches of diameter is attained.

Pulp and Paper Industry in 1917.

To understand the congested conditions of 1918 and the circumstances leading up to the present enormous stocks of sawn timber, paper pulp, and chemical pulp overflowing all the wharves of southern Finland, it must be noted that although the year 1917 began favorably for these products, increasing costs gradually surpassed the rise in price, until the fall of the value of the ruble in Russia, into which country by far the greater percentage of exports went, brought disaster. The revolution in March, 1917, with its introduction of the freedom of the press, increased the Russian demand, but the question of transport became practically insurmountable.

Despite the combined efforts of buyers and manufacturers, only a limited number of freight cars was procured, and even after the ice-blocked harbors had become accessible in the late spring of 1917 there were not enough cars to convey the goods from the factories to ports of shipment. Because of labor shortage in Petrograd, the few boats that were procured for this traffic were delayed in discharging and the number of sailings hoped for was greatly reduced. In the summer, while sea traffic was still open, there was a sudden stop in deliveries, owing to the resolution of Finnish paper manufacturers to stop delivery of goods to Russia until a satisfactory conclusion had been reached in the negotiations with the Provisional Government concerning the value of the ruble.

Conditions in 1918.

Thus the year 1918 began with enormous stocks on hand. At the end of January revolution broke out in Finland, and during the first half of the year all industrial activity was at a standstill. During the summer there suddenly began quite a demand in Germany, but it soon appeared that the object of German buyers was only to obtain a full stock of dry pulp to avoid troubles during short periods of water shortage. Because of the lack of demand for wet wood pulp, there was a fear that dry-pulp stocks would become depleted, leaving immense stores of wet pulp on hand, with the probability of reclamations in case of delayed sale. Hence, the wet article was offered at extremely low prices. Later offers were made and many sales effected of combined wet and dry pulp.

During the summer of 1918 sales of pulp were possible only to Germany, but markets were available later in the Netherlands, Denmark, the Ukraine, Austria-Hungary, Sweden, the Baltic Provinces, and Turkey. Direct sales were not actually possible in all these countries, but is very probable that shipments to Germany found their way there.

During all this time sales were under strict Government control in order to obtain as advantageous compensation as possible.

During the latter part of 1918 all exportation was suspended on account of the Allied blockade in the Baltic. In April, 1919, some shipments were made to the United States in the American vessels that brought food to Finland; but because of the small demand in the United States and the hurried shipments made without any definite purchaser or agreement as to price, it is doubtful whether these shipments proved profitable.

Production and Exports of Wood Pulp.

The following table shows the amount of wood pulp manufactured in Finland from 1913 to 1916, according to the the latest statistics:

Years.	Dry Pulp.	Wet pulp.	Years.	Dry pulp.	Wet pulp.
	Tons.	*Tons.*		*Tons.*	*Tons.*
1913	40,685	113,950	1915	54,663	109,909
1914	41,662	101,139	1916	55,740	131,476

Exports of dry and wet pulp from Finland were as follows, according to customs statistics, from 1913 to 1918:

Years.	Dry pulp.	Wet pulp.	Years.	Dry pulp.	Wet pulp.
	Tons.	*Tons.*		*Tons.*	*Tons*
1913	40,389	9,059	1916	36,453	10,639
1914	23,108	4,898	1917	23,509	11,424
1915	38,282	655	1918	20,415	23,990

Future of Wood-pulp Industry.

An article on the prospects for Finnish wood-pulp markets recently appeared in a Helsingfors newspaper. It contained the following paragraphs:

Wood pulp is used principally as an ingredient in the manufacture of print paper, which as a rule contains about 60 per cent of pulp. The importance of newspapers as a means of informing the world of events, which have for four years succeeded one another with the speed of pictures at a movie, has grown enormously. Despite the overflowing abundance of news material, the size of papers greatly diminished, but with the removal of war censorship they will become even larger than formerly. New tendencies, new ideas, and new countries on the maps of the world will need their daily history fully written. And especially those countries which formerly were under Russian oppression are likely to attain a higher cultural development for the expression of which more and cheaper books and papers will be required.

Everything points to a great demand for print paper and thus for wood pulp, its chief ingredient. Until the disorganization caused by the World War there had never been a superabundance of pulp. Production had managed only to keep abreast of consumption.

We are now looking forward to prosperous times for the pulp mills of Scandinavia and Finland, the countries which before all others are to provide Europe with this increasingly necessary article.

Development of Finland's Paper Industry.

The following statistics were furnished by the Finska Pappersbruksforeningen, of Helsingfors, on the Finnish paper industry for the years 1885 to 1915.

Since 1909 Finland's Bureau of Statistics has made three distinct groups of this industry: (1) Wood-pulp grinderies and board mills; (2) chemical-pulp mills; (3) paper mills. Each is regarded as a separate independent establishment even if two or more are operated by the same firm in the same place.

The development of Finland's paper industry, as far as concerns the three branches of the industry mentioned, is shown in the following table from 1885 to 1915:

Years.	Number of mills.	Number of laborers.	Years.	Number of mills.	Number of laborers.
1885	27	2,179	1911	89	10,912
1890	42	3,300	1912	88	10,316
1895	37	4,119	1913	87	10,612
1900	51	6,350	1914	88	10,693
1905	63	9,117	1915	88	10,601
1910	89	10,904			

Of the laborers 70 per cent are men and 30 per cent are women; 5 per cent are below the age of 18 years.

In 1915 the number of wood-pulp grinderies and board mills was 42; of chemical-pulp mills, 19; and of paper mills, 27.

Production Statistics.

The production of mechanical pulp and board, chemical pulp, and paper is shown in the following table from 1890 to 1915:

Years.	Mechanical pulp and wood-board.	Chemical pulp.	Paper.	Years.	Mechanical pulp and wood-board.	Chemical pulp.	Paper
	Tons.	*Tons.*	*Tons.*		*Tons.*	*Tons.*	*Tons.*
1890	24,201	5,881	15,288	1911	186,677	130,381	158,230
1895	46,089	10,396	24,122	1912	216,401	137,850	167,138
1900	58,184	20,307	49,831	1913	235,356	159,384	184,780
1905	125,459	32,627	77,695	1914	220,569	153,035	180,135
1910	185,667	115,519	175,945	1915	241,915	157,233	204,903

The following table shows the production of different kinds of mechanical pulp and board, chemical pulp, and paper in 1913, 1914, and 1915:

Articles.	1913	1914	1915
MECHANICAL PULP AND BOARD.	*Tons.*	*Tons.*	*Tons.*
Wood pulp	107,650	101,667	120,710
Wood board:			
Brown	29,224	23,718	18,702
White	33,293	37,689	32,457
Rag board	2,385	1,753	1,918
Cardboard	.....	.....	7,575
Total[a]	172,552	164,827	181,362

[a] The totals for paper are approximately the same as the figures given in the preceding table; but those for mechanical pulp and for chemical pulp show considerable discrepancies, which it was impossible to check up because these statistics were taken from the Finska Pappersbruksforeningen and not from official sources.

Articles.	1913	1914	1915
CHEMICAL PULP.			
Sulphate:	*Tons.*	*Tons.*	*Tons.*
Bleached	1,289	8,011	2,317
Unbleached	68,149	51,219	49,774
Sulphite:			
Bleached	26,088	33,178	30,745
Unbleached	17,036	20,101	52,274
Total [a]	142,562	132,509	132,110
PAPER.			
Natural brown paper	58,372	53,700	55,273
Paper containing less than 50 per cent chemical pulp:			
News print	74,216	76,393	59,359
Wall paper and other ordinary grades			28,071
Paper containing wood pulp of medium grade	15,854	18,826	29,623
Wood-fiber paper:			
Without rags	29,743	23,142	23,481
Containing rags	1,477	2,621	2,739
Pergamin paper	4,900	4,695	4,012
Official paper (document)	217	230	261
Wrappers		567	887
Tissue paper		21	362
Real "vegetable" parchment			282
Lignin (cellulose cotton)			547
Total [a]	184,779	180,135	201,897

[a] The totals for paper are approximately the same as the figures given in the preceding table; but those for mechanical pulp and for chemical pulp show considerable discrepancies, which it was impossible to check up because these statistics were taken from the Finska Pappersbruksforeningen and not from official sources.

As by-products from the chemical-pulp mills have been recovered wood alcohol, turpentine, rosin, and ammonium sulphate.

Materials Used by Finnish Paper Industry.

The following table shows the consumption of raw and semimanufactured materials in the Finnish paper industry in 1913, 1914, and 1915:

Articles.	1913	1914	1915
	Tons.	*Tons.*	*Tons.*
Ground-pulp wood	[a] 215,173	[a] 212,180	[a] 230,901
Chemical-pulp wood	[a] 423,633	[a] 396,681	[a] 355,833
Ground wood pulp	148,935	130,045	157,230
Sulphate pulp	74,808	9,653	7,739
Sulphite pulp		63,429	75,704
Waste paper	780	787	875
Straw pulp, foreign	137	80	83
Rags:			
Foreign	2,715	3,179	3,131
Domestic	2,518	2,037	2,269
Limestone:			
Foreign	13,027	12,244	4,860
Domestic	5,111	6,221	6,719
Lime:			
Foreign	1,402	540	
Domestic	22,798	19,600	22,290
Chemicals and dyes:			
Foreign	56,018	48,761	44,283
Domestic	257	437	1,007

[a] Cords.

Finnish industries to a great extent use foreign raw materials and semimanufactured goods owing to the lack within the country. Therefore in 1914 the value of foreign raw and semimanufactured goods, consumed by all the industries of the country, amounted to 41.6 per cent of the total value, whereas the value of domestic goods of these classes amounted to 58.4 per cent of the total.

Consumption of Foreign and Domestic Products.

For the different branches of the paper industry the percentage of the total value of materials represented by foreign and by domestic goods, was as follows in 1914 and 1915:

Branches of paper industry.	1914		1915	
	Foreign.	Domestic.	Foreign.	Domestic.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
Grinderies and board mills	1.1	98.9	1.5	98.5
Chemical-pulp mills	29.7	70.3	37.5	62.5
Paper mills	14.8	85.2	17.5	82.5
Paper industry, all branches	16.2	83.8	19.8	80.2

Water Power Available.

The water power available for Finland's industries in the many rivers of the country is quite large, but it has been much overrated. It has recently been calculated by an expert, Prof. A. Juselius, that at mean water level it may amount to 3,000,000 effective horsepower. But out of this amount of power only a fractional part can be put to practical use within the reasonably near future. A large portion of the water power is situated in parts of northern Finland so remote that for a long time to come it will be impossible to build any industrial establishment there. Furthermore, the available water power is restricted both by the stipulations in the water-power laws regarding the protection of the river channel and by agricultural interests. It should also be considered that the water power is not generally produced by high falls, but is gathered from long sloping stretches of the river; consequently the building of dams is very expensive. Prof. Juselius has estimated the water power that within a reasonable future will be available for Finland's industries at 900,000 horsepower effective at the shaft of the turbine.

The following table shows the water power and the steam power available for the industries of the country in 1914:

Water power.	Number.	Effective horsepower.	Steam power.	Number.	Effective horsepower.
Water wheels	999	9,547	Steam engines	1,720	102,020
Water turbines	1,737	145,013	Steam turbines	115	34,011
Total	2,736	154,560	Total	1,835	136,031

Power Consumption in Paper Industry.

The power that the grinderies and board mills, chemical-pulp mills, and paper mills used in 1915 is shown in the following table:

Sources of power.	Number.	Effective horsepower.	Sources of power.	Num. ber.	Effective horsepower.
Water turbines	346	90,996	Steam boilers	231	[a] 397,299
Steam engines	83	15,861	Electric generators	132	[b] 22,149
Steam turbines	14	4,216	Electric motors that get their current from generators in the same establishment	719	[b] 20,862
Gas engines	1	35			
Electric motors	460	12,878			

[a] Square feet fire surface. [b] Kilowatts.

Machinery Used—Imports of Paper and Materials.

From the statistical investigations of the paper industry in Finland, made in 1909, detailed statements were obtained concerning the machine arrangements then in use. At that time there were in the wood-pulp mills grinders using altogether 43,341 effective horsepower, and 326 pulp screens. In the chemical-pulp mills there were 15 digesters, with a total capacity of 119,609 cubic feet. In the paper mills there were 53 paper machines, of widths varying between 47.24 inches and 129.92 inches.

Finland's imports of wood pulp, paper, and articles made of paper are insignificant, amounting in 1914 to only about $540,400, of which articles made of paper were the largest item.

One of the raw materials used for paper production, namely, rags, is imported in large quantities from Russia, and only a smaller portion from other countries. These imports were 2,881 tons in 1911, 4,667 tons in 1912, 4,611 tons in 1913, and 3,643 tons in 1914.

Total Exports of Paper Products and Materials.

Finland's exports of products of the paper industry are wood pulp, board, paper, and articles made of paper. The last group is of relatively little importance.

The exports of wood pulp, board, paper, and articles made of paper were as follows in specified years from 1866 to 1915:

	Tons.		Tons.		Tons.
1866	305	1890	38,083	1911	314,810
1870	527	1895	58,525	1912	354,509
1875	6,265	1900	97,693	1913	360,631
1880	11,958	1905	169,374	1914	310,297
1885	22,152	1910	264,442	1915	314,766

The exports of wood pulp, board, paper, and articles made of paper amounted to 117,644 tons in the first six months of 1915 and to 168,340 tons in the first six months of 1916.

Exports of Pulp, Board, and Paper.

Of the four groups of articles, mechanical and chemical wood pulp, board, and paper, the quantities exported in specified years from 1890 to 1915 are shown in the following table:

Years.	Wood pulp.		Board.	Paper.	Years.	Wood pulp.		Board.	Paper.
	Mechanical.	Chemical.				Mechanical.	Chemical.		
	Tons.	*Tons.*	*Tons.*	*Tons.*		*Tons.*	*Tons.*	*Tons.*	*Tons.*
1890	13,516	2,011	10,637	11,478	1911	52,010	73,924	52,026	136,005
1895	18,664	2,261	17,848	19,547	1912	61,165	91,210	58,097	142,804
1900	21,049	5,174	32,701	38,466	1913	54,503	84,950	59,299	160,533
1905	59,954	9,784	41,880	60,340	1914	30,871	76,050	51,818	150,509
1910	40,235	55,401	50,247	117,814	1915	42,921	67,789	41,708	161,382

The following figures show the exports of wood pulp, board, and paper during the first six months of 1915 and 1916: Mechanical wood pulp—17,176 tons and 22,465 tons; chemical wood pulp—20,362 tons and 30,519 tons; boards—9,418 tons and 24,181 tons; and paper—70,708 tons and 91,174 tons.

At first the wood pulp exported was principally mechanical wood pulp. But after 1907 a distinct change was made, when the recently built chemical pulp mills began to export.

Exports of Different Kinds of Paper.

The paper exported can readily be divided into four principal groups, namely: (1) Wrapping, cartridge, waste, news print, sheathing, and roofing paper; (2) wall paper; (3) printing and copying paper; (4) finer papers, including writing, colored note, Bristol, cigarette, tissue, drawing, and music paper. The exports from Finland of these articles in specified years from 1891 to 1915 are shown in the following table:

Years.	Wrapping paper, etc.	Wall paper.	Printing paper, etc.	Finer papers.	Years.	Wrapping paper, etc.	Wall paper.	Printing paper, etc.	Finer papers.
	Tons.	*Tons.*	*Tons.*	*Tons.*		*Tons.*	*Tons.*	*Tons.*	*Tons.*
1891	6,496	3,311	3,603	442	1911	65,873	4,719	59,912	5,504
1895	16,576	3,508	4,791	671	1912	71,026	4,291	63,140	4,376
1900	17,332	4,600	14,517	1,959	1913	72,924	4,647	77,235	5,728
1905	27,028	3,937	27,468	1,906	1914	66,662	4,014	78,930	5,962
1910	57,097	5,178	50,312	5,248	1915	70,199	1,900	79,857	9,426

The exports of the four classes of paper during the first six months of 1915 and 1916 were as follows: Wrapping paper, etc.—26,796 tons and 40,228 tons; wall paper—1,343 tons and 524 tons; printing paper, etc.—38,662 tons and 43,945 tons; finer papers—3,908 tons and 6,477 tons.

Countries Purchasing Finnish Paper Products.

The countries to which the paper-industry products from Finland are exported are Russia, Germany, the Netherlands, Belgium, the United Kingdom, France, Sweden, Denmark, Spain, and, rarely, other countries. It seems likely, that with unimportant exceptions, the countries specified in the customs statistics as unloading places are the places of final destination and not transshipping points. The following table shows the value of the exports of products of the Finnish paper industry to Russia, Germany, the Netherlands and Belgium, the United Kingdom, and France in specified years from 1890 to 1915:

Years.	Russia.	Germany.	Netherlands and Belgium.	United Kingdom.	France.
1890	$1,383,771	$113,619	$8,550	$111,458	$347
1895	1,872,004	134,199	16,830	359,945	53,229
1900	3,063,539	438,496	.....	563,251	425
1905	3,986,627	789,775	202,940	96,780	398,024
1910	5,932,870	830,595	408,986	1,885,243	217,743
1911	6,677,221	1,072,617	573,364	2,415,665	368,051
1912	7,094,352	968,648	823,492	2,783,697	495,798
1913	8,328,066	1,029,732	713,811	2,739,326	428,692
1914	9,080,882	435,987	263,928	2,367,666	214,230
1915	16,119,418	.....	.....	.....	.....

First among the countries to which Finland exported paper products was Russia. But these exports at the same time that they showed a distinct increase also showed a relative reduction. Whereas the value of exports to Russia formerly reached almost 80 per cent of the total they have come down to about 60 per cent during recent years. During the years of war the exports to Russia were again the greater part, or 71.5 per cent of the value in 1914 and 89.3 per

cent in 1915. It is in the other countries mentioned in the table that Finland has found an increased market for its paper products. Of course the years of war are in this respect an exception. Next to the exports to Russia the exports to England are the greatest. The exports to France have been of importance only during recent years.

Exports of Wood Pulp, by Countries of Destination.

The following table shows the exports from Finland of mechanical and chemical wood pulp to the principal countries of destination, in specified years from 1890 to 1916:

Years.	Russia.	Germany.	Netherlands and Belgium.	United Kingdom.	France.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1890	15,238	.....	.....	286	.....
1895	13,767	1,924	375	3,424	1,047
1900	20,646	4,097	1,000	1,108	.....
1905	12,877	8,649	2,994	15,533	21,822
1910	14,799	13,252	10,483	32,061	21,174
1911	18,731	22,319	15,162	48,236	19,289
1912	21,040	20,294	20,698	59,602	26,047
1913	19,532	21,516	15,235	46,446	28,440
1914	27,256	5,206	5,732	44,227	13,754
1915	120,602	.....	.....	.....	.....
1916	52,981	.....	.....	.....	.....

Whereas Russia formerly was almost the only export country for Finland's wood pulp, this relative importance has decreased during recent years. At the same time the importance of the other export countries, especially the United Kingdom, has increased. Beginning with 1905, a well-established market seems to have been found for Finnish wood pulp, not only in Russia, but also in Germany, the Netherlands, Belgium, the United Kingdom, and France. But the exports to all these countries stopped with the outbreak of the war.

Exports of Board, by Countries of Destination.

The following table shows the exports of board from Finland to the principal countries of destination in specified years from 1890 to 1915:

Years.	Russia.	Denmark.	Germany.	Netherlands and Belgium.	England.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1890	8,177	231	285	197	1,378
1895	9,563	758	1,984	216	4,506
1900	9,309	714	11,958	.....	10,141
1905	8,083	981	14,041	4,905	13,265
1910	11,796	2,762	9,377	6,447	19,815
1911	13,573	1,967	9,791	6,740	19,866
1912	14,126	3,000	8,691	8,720	22,866
1913	14,993	2,935	8,427	8,436	24,000
1914	18,285	1,160	4,295	3,313	23,334
1915	23,856	.....	.....	.....	.....

The exports of board to Russia during the first six months of 1916 amounted to 20,787 tons, as compared with 8,889 tons in the first half of 1915. In former years almost all the board exported went to Russia; later other countries, especially England, became buyers of Finnish board, and largely of wood-pulp board.

Exports of Paper, by Countries of Destination.

The following table shows the exports of paper from Finland to the principal countries of destination in specified years from 1890 to 1915:

Years.	Russia.	Denmark.	Germany.	United Kingdom.	Years.	Russia.	Denmark.	Germany.	United Kingdom
	Tons.	*Tons.*	*Tons.*	*Tons.*		*Tons.*	*Tons.*	*Tons.*	*Tons.*
1890	8,056	40	1,800	1,031	1911	106,292	376	7,235	21,701
1895	14,832	402	557	3,623	1912	116,589	641	5,218	19,897
1900	32,507	533	490	4,916	1913	135,304	1,315	4,503	18,511
1905	49,341	32	2,778	8,181	1914	136,165	340	1,910	11,666
1910	93,910	1,498	6,870	14,682	1915	158,925	.....	.....	.....

Exports of paper from Finland to Russia amounted to 91,309 tons during the first half of 1916, as compared with 69,263 tons during the corresponding period of 1915. Insignificant quantities of paper are exported to Sweden, the Netherlands, Belgium, and France.

Exports of Different Kinds of Paper to Russia.

The following table shows the amounts of different kinds of paper exported from Finland to Russia, the principal purchaser of this article, in specified years from 1891 to 1915:

Years.	Wrapping paper, etc.	Wall paper.	Printing paper, etc.	Fine papers.	Years.	Wrapping paper, etc.	Wall paper.	Printing paper, etc.	Fine papers.
	Tons.	*Tons.*	*Tons.*	*Tons.*		*Tons.*	*Tons.*	*Tons.*	*Tons.*
1891	5,176	3,314	706	422	1911	42,934	4,693	53,226	5,439
1895	5,267	3,502	4,250	623	1912	49,434	4,291	58,584	4,280
1900	12,038	4,600	13,945	1,924	1913	53,615	4,647	71,364	5,678
1905	17,243	3,937	26,310	1,851	1914	49,033	4,014	77,198	5,920
1910	37,615	5,177	45,946	5,172	1915	67,745	1,900	79,857	9,423

The exports of paper of different kinds from Finland to Russia during the first six months of 1916 amounted to 40,206 tons of wrapping paper, 524 tons of wall paper, 43,945 tons of printing paper, and 6,468 tons of fine papers, as compared with 25,354 tons, 1,343 tons, 38,661 tons, and 3,905 tons, respectively, in the corresponding period of 1915.

Sawmills and Timber Export Centers.

In 1915 the number of sawmills in Finland was 600, over 100 of which turned out between 300,000 and 400,000 cubic feet annually.

Most of the larger mills are situated at or near the mouths of the principal rivers, for instance, the Kumo, the Vuoksi, the Kymmene, and in the far north, the Kemi and the Tornea. For this reason Kotka, at the mouth of the Kymmene, and Bjorneborg, at the mouth of the Kumo, have become large timber-exporting centers. In southeastern Finland, Viborg holds a similar position, chiefly because it lies close to the Saima Canal.

Despite the wealth of water power, nearly half of Finland's sawmills are steam-driven, the explanation being that other considerations than accessibility of water power determined the location and the waste products of the mill furnished sufficient fuel for economical steam power.

Bobbin Manufacture.

There are at present 14 bobbin factories in Finland, all with English machinery. The product is shipped mostly to England, but also to Spain, Italy, and Brazil. The plants were closed during 1918 and there were no exports.

The spruce and pine furnish the raw material for the saw and pulp mills, while the manufacture of the bobbin utilizes only the birch. Since there is a large wastage, it is more profitable to manufacture bobbins in a large town or near steam mills where the waste can be utilized as fuel.

Moreover, there are transport difficulties not existing in the case of the saw and pulp mills. Birch logs can not be floated like fir and pine logs, but must be piled on barges and brought down by tugs. Consequently, such facilities as Finland offers for water transport are of the utmost value, and the bobbin industry flourishes accordingly.

Cotton Manufacturing and Its Prospects.

The most important manufacturing industry, or at least that which produces the largest values next to the saw and pulp mills and machine factories, is the textile group, chiefly cotton spinning and weaving.

For this industry the country possesses no natural advantages, but it has achieved considerable results, especially in the last 20 years, during which time the value of production has increased from about 20,000,000 marks ($3,860,000 at the normal exchange rate of $0.193 to the mark) to 80,000,000 marks ($10,000,000 at 8 marks to the dollar). The annual imports of cotton during normal pre-war times reached about 30,000 bales.

Owing to the restrictions on exports from the United States and England and the difficulty of transit through Scandinavia, the latest importation of raw cotton from the west was late in the year 1916. After that the Finnish cotton mills turned to Russia, whence, despite the poor transportation facilities, manufacturers succeeded during 1917 in receiving partial supplies. Beginning with January, 1918, the Russian-Finnish frontier was closed, and the production of Finnish mills during 1918 was about one-third normal.

During 1918 there were no exports. Previously, however, the Finnish mills exported annually 1,760,000 pounds of manufactured cotton goods to Central Russia and also considerable quantities to the Baltic Provinces and Poland. Since Finland's separation from Russia, the domestic supply is not filled and no new export markets have been found.

During the first four months of 1919 factories were mostly closed; but in May, when the blockade of Finland relaxed and the export restrictions on the cotton originally bought by Finnish manufacturers and warehoused in Norway and Sweden were lifted, the situation was relieved. At present all the mills are running, and manufacturers estimate that the future supply and demand will balance.

The great problem now is the question of foreign exchange. This causes much trouble in securing the normal raw-material supply. "Unless this question is solved," remarks a large manufacturer, "that is, unless some method is found to exchange Finnish marks for

the dollar, our business relations with the United States can not possibly improve."

New York versus Liverpool Cotton.

Pre-war buying of cotton was effected through the exchange of Liverpool and Bremen, the result being that prices were slightly higher than if purchase had been made direct from the United States; but domestic manufacturers claim that this price increase was compensated by improved quality, especially in connection with Liverpool cotton, which is more evenly graded under a classification more favorable to the buyer. Only insignificant purchases were made in the United States.

Finnish manufacturers assert that a growing and general tendency is apparent to effect direct connection with United States cotton exporters. One mill operator says:

> During the short time since the war that cotton imports have been possible, several shipments have arrived from the United States and it is possible for this direct shipping to continue. On the basis, however, at least of my own experience with direct shipments, I must emphasize the fact that though Liverpool prices are higher the cotton is much better graded and more evenly classified than the direct shipments from the United States. For instance, this last spring there was purchased for the joint account of several Finnish spinners, direct from New York, a shipment of both good middling and fully good middling. At the same time we received for our own account another shipment of only fully good middling from Liverpool. The fully good middling of both the New York and the Liverpool shipments was of the Texas variety, $\frac{29}{32}$ millimeter (.038 inch), good staple and good color. But upon comparison the remarkable discovery was made that the New York cotton was two quarter grades lower in quality than the Liverpool, and in addition it was much more uneven. Other spinners concerned are of the same opinion in regard to this matter.

The foregoing was written in a letter to this consulate, and the writer continues:

> We assume these facts are known to you, but we wanted to draw your attention to the points stated above, because in our belief they represent the principal reasons why American exporters meet with difficulties in competing with Liverpool. We would say that we find it quite natural for Finnish importers to attempt direct business connections with the United States, but in our opinion cotton buying will develop in that direction only when American cotton houses are able to offer as even and as well-assorted cotton as is offered by the Liverpool houses. On the other hand, to buy an article through an intermediary means, of course, increased cost, and in addition the advantages hitherto attributed to Liverpool and Bremen in regard to communication with our country have lost their importance.

Location of Cotton Mills.

The chief seat of the cotton industry is Tammerfors, the Manchester of Finland, which is advantageously situated between two lakes. From 1856 to 1906 Tammerfors enjoyed important privileges whereby its manufacturers were allowed to import raw material duty free. There are important factories also at Forssa, Vasa, Abo, and Bjorneborg.

Woolen Industry.

There are 18 woolen mills in Finland, with a combined capital at the close of 1918 of 24,000,000 marks. Some of these are very small. Recently most of these mills have been able to replenish thir stock of raw materials from England.

The situation during 1918 was very variable. Until the armistice every mill could sell practically unlimited quantities at high prices, but in the autumn there came a stagnation which continued until the goods bought on speculation could be consumed. At present the demand is rather good, but it does not compare with the rush of 1917–18.

Although the Finnish woolen industry can produce much more than the domestic requirements, there have never been any exports worth mentioning. One of the reasons given for this is that neighboring countries, especially Russia, had prohibitive customs duties. During the war, however, Finnish manufacturers were able to sell large quantities to the Russian War Department.

Thus Finland has no foreign market to lose and will in all probability be reduced in the future to providing only for the home market, with consequent overproduction and small profits. "But the Finnish woolen industry has consolidated itself during the war," remarks a prominent manufacturer, "and will of a certainty get along even under less favorable conditions."

Shoe Industry—American Shoes Popular.

Finland's 21 shoe factories have a combined capital stock of 25,260,000 marks and a capacity of 20,000 pairs of shoes daily. Because of lack of raw material and disorganized conditions of labor there was no production during the first half of 1918 and an exceedingly limited output during the last half. Manufacturers assert that these factories can normally produce 40 per cent more than home consumption.

Ten of these factories are equipped with American machines. Domestic sole leather and both home and foreign made upper leather constitute the raw materials. During the war considerable quantities of American sole leather were used. The Finnish manufactured article is clumsy in appearance but renders good service.

The American shoe is exceedingly popular, more so than any other make. Large show windows in Helsingfors are full of American shoes decorated with American flags. Prices vary from $8 to $12 a pair. It would appear that there are other possibilities to American exporters of this line, especially if buyers here could procure dollars in the United States or arrange credits there. An additional obstacle at present, as with all imports, is the difficulty experienced by the importer of securing import licenses from the Finnish Handels Kommissionen.

Machinery Surplus Sold to Russia—Separators Exported.

The manufacturers of machinery during the years 1915 and 1916 were overwhelmed with orders for the Russian market, but at the end of 1917 and the beginning of 1918 all such orders had ceased and the industry was greatly depressed.

At the end of January, 1918, the revolution broke out and immediately all workshops in southern Finland, where the greatest number of such shops are located, were compelled to close. After the revolution, in April, the industry by degrees resumed activity and by June, 1918, about one-half of the number of laborers employed in the prosperous year 1916 were at work.

In addition to the particularly large exports to Russia during the first years of the war, this industry has furnished to Russia for many

years the surplus of its output not used at home. Such exports are now impossible and this fact has its effect, though it is not sufficient to prevent the industry from expanding, probably to its former position and beyond.

The only noteworthy article of export at present to other countries than Russia consists of separators made by a firm in Helsingfors.

Kinds of Machinery and Places of Production—Nyland Province.

The same articles are produced now as before the war, namely: Boilers, steam engines, water turbines, sawmill machinery, agricultural implements, small vessels under 1,000 tons, railway cars, and electrical machines and apparatus.

In Nyland Province a Helsingfors company makes a specialty of railway bridges and steamers. Another Helsingfors company also owns a magnificent dock blasted out of the rock on the sea and well adapted for ship repairing. A company at Fiskars, in western Nyland, manufactures agricultural implements of fine iron as well as billets and plates; it owns two blast-furnaces—the old Viborg and the old copper mine of Orijarvi—and a considerable amount of landed property. A concern at Billnas makes a specialty of spades, shovels, and similar implements; and a company at Hogfors is known for its excellent foundry work and turns out a considerable number of stoves.

Machinery Works in Abo-Bjorneborg, Tavastehus, and Viborg Provinces.

In the Abo-Bjorneborg Province are a company that builds men-of-war and other steamers; an iron-manufacturing company, which manufactures railway cars, mowing machines, and reapers; a company with the largest rolling mill in the country, which especially produces ironwork for ships; a company that makes thrashing and other agricultural machines; and a company in Bjorneborg that owns a large shipyard and workshops where steamers are built.

In the Province of Tavastehus there is a linen and iron manufacturing company, which, in addition to its linen factories, has shops for building locomotives, pulp machines, etc.

In Viborg Province are shipyards and engineering works at the eastern mouth of the Kymmene River, the specialty of which is agricultural machines.

Plants in St. Michels and Kuopio—Metal Industries Association.

St. Michels Province boasts of great iron works at Varkaus, on Saima Lake, and at Viborg. This company builds steamers for the lakes of the interior, and also makes furnishings for saw and flour mills. In the same Province is a plant whose principal output is iron tubes.

In Kuopio Province, on the Janisjoki, one of the rivers emptying into Lake Ladoga, are blast furnaces, an iron foundry, and a rolling mill, all owned by one concern. The same company owns the largest unbroken area of landed property in Finland. In Stromsdal, on the watercourse from Pielis, in the northeastern part of the Saima district, are engineering works.

Several of the foregoing plants date from the seventeenth century and have played a very important part in the early economic history of the country. With time they have gradually changed the character of their products.

Of lesser iron and engineering workshops there are over 50.

Finlands Metallindustriforening, in Helsingfors, is an association representing 58 firms and companies owning 72 metal and machine works and factories. Owing to the revolution and lack of material, the number of workmen employed by these firms in 1918 amounted to 7,500, or approximately half of the pre-war number.

[A list of the members of this association may be obtained from the Bureau of Foreign and Domestic Commerce or its district or cooperative offices. Refer to file No. 128332.]

Mining Operations in Finland—Treatment of Iron Ore.

The following ores are mined in Finland, or prospecting work concerning them is carried on: Copper, pyrite, iron pyrite, magnetite, galenite, and molybdenite. The principal copper mines are situated at Outokumpu, between Joensuu and Kuopio; Pitkaranta, on Lake Ladoga; and Orijarvi, west of Helsingfors. There are iron mines at Pitkaranta, Kelivaara, and Walimaki, on Lake Ladoga; and at Jussaro, on the coast west of Helsingfors. The Director of the Geological Survey of Finland states that there are extensive deposits of iron ore in Lapland. Finland's iron ore is not of the best quality. Iron pyrite is mined at Tipasjarvi, in Sotkamo, east of Kajana, and at Otravaara, in Eno, southwest of Joensuu. The molybdenite prospecting pit lies at Matasvaara, southeast of Nurmes.

In the eighteen-seventies gold was discovered in the north of Finland in the bed of the Ivaljoki, which empties into the Arctic. Gold washing since then has taken place regularly, but with inconsiderable results.

Only small quantities of ore were produced in 1918 because of the war and the high cost of labor. At Outokumpu, 12,000 tons of copper ore was mined; at Pitkaranta, 3,000 tons of magnetite; at Tipasjarvi, 800 tons of iron pyrite; and at Otravaara, 1,000 tons of iron pyrite.

Prospects are good for mining copper at Outokumpu, where there is a large ore body containing 6,000,000 to 8,000,000 tons of ore in sight, with 4 per cent of copper and 27 per cent of sulphur.

The production of pig iron is carried on in 15 blast furnaces, 11 in eastern and 4 in western Finland. One in the east, St. Annae, belonged to the Russian Government. The total output in the three years preceding 1915 was approximately 35,000 tons annually. About the same amount is imported.

The treatment of iron in open furnaces, known as the Franche-Comte and Lancashire furnaces, has about ceased. Most of the product is now treated by puddling.

In addition to the pig iron, there is an annual output of about 10,000 tons from the forges. Included in this are various implements, such as axes, hoes, forks, horseshoes, and nails. Wire nails are a special feature of this industry.

Porcelain Manufacture.

Only a few of the raw materials necessary for the manufacture of porcelain are found in Finland. Such materials as plaster for molds, clay, colors, chemicals, brass, and silk cloth are all imported.

Owing to the disastrous conditions in 1915, 1916, and 1917, the year 1918 began with a very difficult situation. All imports were cut off and supplies on hand became exhausted. The demand for porcelain and like articles being great, it was necessary for manu-

facturers to produce usable goods without much regard to quality and finish. As a result, Finnish clays and other raw materials were used, being mixed with a small left-over supply of British clays. By this means manufacturing was continuous, with the exception of the months of February, March, and April, 1918.

The only important porcelain factory in Finland is in Helsingfors. It was founded in 1874 and has a capital of 1,800,000 marks. Its entire output is consumed in Finland, but on a few occasions it has exported small quantities of extra quality to the United States. The company says it may take up the export business again.

A porcelain factory in Abo, founded in 1918 with a capital of 1,800,000 marks, manufactures only electrotechnical articles. It began operations only in September, 1919. Its plans are to export to Russia when conditions permit. The material at present used is ready-made mass and glaze imported from Germany. The same company operates another factory in Abo, the only business of which is to decorate and market German and Austrian white porcelain.

Development of Glass Industry.

The glass industry of Finland began in the middle of the eighteenth century, and there are two factories now running which date from the end of that century. At present there are 12 factories in Finland. The most important of these are at Kuopio, Urjala, Kalvola, and Karhula, north of Kotka. These factories are noted not only for the amount of production but also for the variety and quality, such as glassware for household use and ornament, window glass, and bottles.

The value of production in the Finnish glass industry was $1,040,000 in 1912, and $1,074,000 in 1913, decreasing in the following two years to $950,000 and $765,000, respectively. Practically the only exportation is to Russia, which took $199,000 worth of window glass and bottles in 1912, $228,000 worth in 1913, and $141,000 worth in 1914. Imports into Finland of glass of all kinds were valued at $283,000 in 1912, $304,000 in 1913, and $169,000 in 1914. [Conversions have been made at the normal exchange rate of $0.193 to the Finnish mark.]

Despite the fact that all the raw materials for glass manufacture are imported, this industry has developed rapidly and has a promising future.

Brick Making.

Of the clay industries the manufacture of brick is the most important and attains considerable proportions in the vicinity of the larger cities, such as Helsingfors, Abo, Viborg, Tammerfors, and Vasa.

The red baked brick 27 by 13 by 7 centimeters (1centimeter=0.3937 inch) is the principal product. In the larger centers circular ovens are common, and while wood is generally used for firing, oil has been employed in some of the larger factories. The capacity of the chamber kilns ranges between 300,000 and 400,000 bricks, while the circular kilns produce 700,000 to more than 2,000,000 bricks annually.

Finland's total yearly production of brick immediately preceding the war was about 100,000,000, and the number of workmen employed was over 5,000.

Finnish Granite Excellent and Plentiful.

The substratum on which the later soil formations are found and which continually appears on the surface, is granite, which occurs as pure granite, gneiss, and porphyritic granite. It has proved an

excellent building material, frequently of beautiful colors, light or dark gray, blue-tinted, brown, and red.

Great quantities of Finnish granite have been taken to Petrograd for use in constructing some of the most magnificent buildings. Thus the "rapakivi" granite from eastern Finland has been used for the three rows of pillars 55 feet high around three sides of the cathedral of St. Isaac; also in the construction of the Kazan Cathedral and the Marble Palace. The red granite from southwestern Finland was used for the monuments of Alexander II at Moscow and Alexander III at Moscow and at Petrograd. Finnish granite was also used in building the quays on the Neva and various canals, as well as for the ordinary city pavements.

The granite industry is exclusively Finnish and could interest American business only from the point of view of transportation equipment, drills, hammers, explosives, and derricks.

Kinds of Fish and Annual Catch.

Some 7,000 families in Finland are supposed to live by fishing. They have over 10,000 boats, all small, manned by two to four men.

During 1918 the take was very large, owing to the lack of nearly all other kinds of foodstuffs. The total catch for a normal year immediately preceding the war averaged 23,000 tons, of which about 14,000 tons was from the sea, 8,000 tons from the lakes, and 1,000 tons from the rivers. More was probably obtained, as the reports are not complete.

The largest part of the annual catch consists of Baltic herring, or "stromming," which amounted in 1918 to 9,000 tons. The common herring, of which an enormous quantity was caught in the Baltic 300 years ago, is now rare. The small anchovy, or "hvassbuk," has a certain importance in southwestern Finland.

From the sea are obtained 1,000 to 2,000 tons of common inland fish, such as pike, bass, and perch, which here are found in the sea because it contains only a very little salt. Between 500 and 1,000 tons of salmon trout are caught, and about the same quantity of smelts. Codfish, flounder, and eels are also found.

From the lakes are obtained about 4,000 tons of the commoner kind of fish and about 2,750 tons of excellent fish similar to salmon, in addition to salmon trout and a fish in Finland called "silakka" or "muikku," well-known under the name of white fish as one of the finest fishes in the western part of the Great Lakes.

Salmon holds, of course, a very considerable place, especially in the rivers and lakes, and next to the Baltic herring is the most important fish. It was exported in 1912 to the value of over $109,000, and in 1913, $183,000. Salmon fishing furnishes excellent sport in the northern rivers, in the Kemi, Ijo, and Ulea; in the Kumo there are also salmon trout. In Lake Lagoda large sturgeons are caught, which were formerly taken to Petrograd. Of crayfish over 500 tons are exported.

Seal shooting is of importance; less, however, in Lakes Ladoga and Saima, where certain specimens of seal are supposed to indicate that these fresh-water lakes were once connected with the White Sea.

Treatment of Fish Catch—Fish Culture Little Practiced.

The Finlanders are not up-to-date in their treatment of fish. Generally it comes into the market dead, and the method of killing the

fish at once and transporting it in ice or refrigerators is little known. At Ekenas, in the southwest, some anchovies and Baltic herrings are canned or otherwise prepared. In some places the Kiel method of smoking is employed. The Finlanders themselves eat most of their fish strongly salted.

Very little has been done toward fish culture, but successful experiments have been made with several American varieties. The people themselves transplant fish and roe by primitive methods. Certainly the enormous lake area of Finland, representing 11 per cent of the whole country, and in a large part of the south more than half of the country, could yield a much larger catch, as could the sea near the coast.

Conditions Affecting National Revenue and Expenditure in 1918.

Owing to the revolutions in Russia and in Finland, the Diet was prevented from passing the budget at the usual time, and the budget for 1918, therefore, was adopted only at the end of that year. By that time the sums of most of the revenue and expenditure were already known, so that it was possible to calculate the amounts in close accord with the facts. The national income in 1918 did not suffice for the expenditures, and recourse was had to loans, the total amount of which was 530,000,000 marks ($66,250,000). This was due to special and exceptional circumstances, which on the one hand increased expenditures and on the other hand diminished the revenue. Finland's foreign debt had been exceptionally small.

Increase in Expenditure and Its Causes.

The following are the circumstances that led to the increase of expenditures: (1) Three months of revolution in the country and (2) the establishment of the independence of the country. The 530,000,000 marks contains an item of 300,000,000 marks for quelling the revolution, but various other items also include expenditure directly caused by the revolution, such as prison expenditure, communications (the reconstruction or repair of destroyed bridges and rolling stock), grants to those who suffered from the revolution, and grants to orphaned children. The ordinary expenditure for military purposes in 1918 was 123,000,000 marks ($15,375,000), and the extraordinary expenditure, 29,000,000 marks ($3,625,000). The fact that the military expenditure was not still greater is due to the large quantities of military stores taken from Soviet Russia. Large expenditures were also necessary for establishing the new Government offices and the new foreign legations.

Apart from such extraordinary expenditure, the State endeavored to support and further the economic life of the country. This is shown by the large items in the budget for the increase of the national landed estates (32,000,000 marks, or $4,000,000) and for constructing railways and canals (53,000,000 marks, or $6,625,000).

Decrease in Revenue and Its Causes.

The decrease in revenue was due largely to the following exceptional circumstances: The revolution caused a decrease in the revenue from the railways (125,000,000 marks, or $15,625,000), the State forests (27,000,000 marks, or $3,375,000), etc. The corresponding figures in the budget for 1919 are 240,000,000 marks ($30,000,000) and 53,000,000 marks ($6,625,000). The imports of Finland during 1918 were exceedingly low, owing partly to the world war and partly

to the revolution. The customs duties, therefore, brought in only 16,500,000 marks ($2,062,500). Now that foreign trade is resuming normality and the customs duties are raised to correspond with present prices, customs revenue amounting to 221,000,000 marks ($27,625,000) has been included in the budget for 1919.

It may also be remarked that the direct taxation of the Finnish State is still comparatively low. Apart from certain old-established and unimportant taxes amounting to 47,000,000 marks ($5,875,000), the budget for 1918 included only two large direct taxes. These were the exceptional income tax (130,000,000 marks, or $16,250,000) and the exceptional property tax (150,000,000 marks, or $18,750,000). The total of all the national direct taxation (that is, all taxation apart from the customs) amounted in 1918 to an average of only 11 marks per individual, a very insignificant sum compared with the taxation of other countries. If the proposals for income and property taxes submitted to the Diet during 1919 are passed, the national revenue will be considerably increased. It can also be anticipated that the revenue from the great national forests will be susceptible of great increase in the future.

Summary Table of 1918 Budget.

The following table summarizes the revenues and expenditures of Finland in 1918:

Revenues.	Marks.	Dollars.	Expenditures.	Marks.	Dollars.
Ordinary revenue	387,248,400	48,406,050	Ordinary expenditure	654,616,403	81,827,051
Extraordinary revenue:			Ordinary grants	754,160	94,270
Special taxation	150,000,000	18,750,000	Extraordinary expenditure	455,576,033	56,947,004
Other special revenue	6,284,800	785,600	Extraordinary grants	40,000,000	5,000,000
Loans	530,278,100	66,284,762	Balance in hand	9,557,666	1,194,708
Grants from various funds	86,692,965	10,836,621	Total	1,160,504,265	145,063,033
Total	1,160,504,265	145,063,033			

Details of National Finance in 1918.

The following table shows the details of the revenues and expenditures of Finland during 1918:

Revenues and expenditures.	Marks.	Dollars.
REVENUES.		
Ordinary revenue:		
Revenue from State property (forests, railways, estates, canals, etc.)	157,783,000	19,722,875
Direct taxation	154,460,000	19,307,500
Indirect taxation	16,700,000	2,087,500
Various taxation	22,273,000	2,784,125
Revenue from national institutions (post, telegraph, etc.)	21,572,000	2,696,500
Sundry revenue	14,460,400	1,807,550
Total, ordinary revenue	387,248,400	48,406,050
Extraordinary revenue:		
Special property tax	150,000,000	18,750,000
1918 loan for Department of Communications	120,000,000	15,000,000
First Finnish Liberty Loan	200,000,000	25,000,000
Surplus of Liberty Loan	78,676,100	9,834,512
Second Finnish Liberty Loan	100,000,000	12,500,000
Short-term foreign loans	31,602,000	3,950,250
Sundry extraordinary revenue	6,284,800	785,600
Total, extraordinary revenue	686,562,900	85,820,362
Balances transferred from various funds	86,692,965	10,836,621
Grand total, revenues	1,160,504,265	145,063,033

Revenues and expenditures.	Marks.	Dollars.
EXPENDITURES.		
Ordinary expenditure:		
The Regent and the Diet	2,895,000	361,875
The Government	7,646,000	955,750
Justice	39,830,200	4,978,775
Civil Administration	56,254,328	7,031,791
Financial Administration	9,236,760	1,154,595
Department of Social Affairs	3,210,030	401,254
Military expenditure	122,661,975	15,332,747
Religious and educational system	60,518,250	7,564,781
Department of Agriculture	34,652,300	4,331,538
Means of Communication	221,836,000	27,729,500
Trade and Industry	15,395,818	1,924,477
Various Government offices	2,337,795	292,224
Sundry expenditure	24,575,600	3,071,950
Pensions and grants	9,943,350	1,242,919
National debts: Exchecquer (21,793,000 marks) and means of communication (21,830,000 marks)	43,623,000	5,452,875
Total, ordinary expenditure	654,616,496	81,827,051
Ordinary grants:		
Grant for assisting unsettled population to buy land	300,000	37,500
Grant for the care of needy children	300,000	37,500
Grant to the fund of Means of Communication	154,160	19,270
Total, ordinary grants	754,160	94,270
Extraordinary expenditure:		
Premises for legations abroad	1,410,000	176,250
Increase in national landed property	31,603,200	3,950,400
Quelling of revolution	300,000,000	37,500,000
Military expenditure	29,153,486	3,644,186
Religious and educational expenditure	659,347	82,418
Agriculture	1,767,600	220,950
Means of communication (canals, ports, and railways)	52,957,400	6,619,675
Trade and industry	7,717,000	964,625
Food control	30,308,000	3,788,500
Total, extraordinary expenditure	455,576,033	56,947,004
Extraordinary grants:		
Fund for age and invalidity	10,000,000	1,250,000
Fund for assisting those who suffered from the revolution	30,000,000	3,750,000
Total, extraordinary grants	40,000,000	5,000,000
Grand total, expenditures	1,150,946,599	143,868,325

Finland's Foreign Debts and Creditors.

The following are the foreign debts of Finland at the present time:

Years.	Intermediaries.	Purposes.	Interest.	Outstanding amount.	Sinking fund.
			Per ct.	*Marks.*	*Per ct.*
1889	S. Bleichroder, Germany.	Railways	3½	30,794,470	5
1895	Credit Lyonnais, Paris	do	3½	14,552,500	2½
1898	Bank of Finland	do	3	46,287,500	4.4
1901	Credit Lyonnais, Paris	do	3½	21,770,000	8
1903	do	do	3½	8,907,000	8
1909	Hambro & Son, London	do	4½	43,225,808	7½
1919	Messrs. W. Gutzeit & Co., Norway.	Purchase of forests and industrial concerns.	5½	163,680,000	.....
	Total		.....	329,217,278	.....

The bonds of the loans mentioned, with the exception of the Norwegian loan, are held chiefly in France, England, and Germany, but some are also held by Finnish banks and financial institutions.

Comparison of Finland's Assets and Liabilities—Forest Resources.

The following are the chief assets of Finland: Forests, landed estates, rapids, railways, canals, industrial undertakings, and buildings.

Fifty-four per cent of the whole surface of Finland is forest land. No other country has forests that can be compared to those of Finland in proportion to the extent of the country, and only Russia has forests of greater extent, while those of Sweden cover a slightly smaller area. The Finnish Government owns 48,000 square miles of this extensive forest land—that is, more than half of the total forest area and about one-third of the total surface of Finland. It is to be noted, however, that a considerable proportion of this territory is land of little value, rock, swamp, etc., and that extensive areas of it are situated far in the north. The State owns really good forest land amounting to 20,800 square miles, or more than the area of Vermont and New Hampshire combined. Thus about one-seventh of the total surface of Finland is State-owned forest land.

Estimates of Forest Values.

If the timber be valued at $0.75 per log and the land at only $5 per acre, these national forests are worth $246,769,500 (converted from 1,974,156,000 marks at 8 marks to the dollar). But it must also be noted that in the present circumstances all raw material is very high in value.

Another careful calculation of the value of the forests may be noted. In southern Finland the State owns about 4,200,700 acres of forest land. At the private valuation of $50.50 per acre, and including every kind of forest, the value of this comes to $212,135,350. If in northern Finland only the good forest land is valued, of which there is 11,119,500 acres, and this is estimated to be worth $15 per acre, the total value of the northern forests comes to $166,792,500 and the value of all the State forest land is $378,927,850 (converted from 3,031,422,800 marks at 8 marks to the dollar).

As already remarked, these calculations have been very carefully made, and it can therefore be said that the State forests of Finland form a very valuable asset, especially in consideration of their nearness to the European markets.

Value of Landed Estates and of Water Power.

Since very remote times the Finnish State has owned a number of landed properties throughout the country. Their value is about 283,000,000 marks.

The waterfalls of Finland are theoretically estimated to produce power equivalent to 3,000,000 horsepower at the average height of water. Experts have calculated that 1,050,000 horsepower can be utilized directly in the service of industry. At present only 150,000 horsepower is being utilized, so that there is here a great possibility of development. The State owns a number of rapids in the northernmost part of the country, and in the south, in the River Vuoksen, it has the still unutilized Imatra, with 140,000 horsepower. The State-owned rapids have a value of 10,000,000 marks, not including Imatra, which at present is regarded only for its natural beauty.

Value of Railways, Canals, Industrial Undertakings, and Buildings.

When the railways were first constructed they were built for the State, and that policy has been followed consistently. The railway system is therefore national property, and the railway traffic is conducted on behalf of the State. The length of the railways is 4,034 kilometers (1 kilometer=0.621 mile). Their cost of construction

amounted in 1915 to 297,000,000 marks, not including buildings and rolling stock, which at peace-time prices are estimated to be worth 173,000,000 marks. If the calculation is made according to current prices, the total value of the whole railway system amounts to 1,500,000,000 marks ($187,500,000). It should be noted that all the loans raised previous to the war were for railway purposes and that the revenue from the railways was sufficient to pay the interest and sinking funds.

The canals of Finland, like the railways, are very important means of communication, and nearly all are owned by the State. The most important is the great Saima Canal, which connects the Saima Lake with the sea. The value of the canals is 100,000,000 marks.

The State has recently bought the majority of the shares in two of the largest industrial undertakings in the country. Both own great forests, which produce the raw material for all kinds of woodworking industry. The State-owned shares in these undertakings are valued at 247,000,000 marks.

The buildings belonging to the State are worth about 671,000,000 marks.

Relatively Small Liabilities.

The Finnish foreign loans amount to 329,217,278 marks. During 1918 considerable additional sums were needed, especially for the purchase of military stores and the so-called Liberty Loans were accordingly raised. These were wholly underwritten within the country, and their sum total amounted to 378,676,100 marks.

Another railway loan was raised in 1918, after the war, amounting to 120,000,000 marks. It was used for the construction of new railways and for putting the system into working order again.

The Bank of Finland suffered severely owing to the depreciation of the rubles in its possession, and the revolution also caused it a loss of 160,000,000 marks. The Representative Assembly therefore decided to make the bank a grant of Finnish Government bonds to an amount of 350,000,000 marks nominal value.

The liabilities of the Finnish State are therefore less than are covered by the value of the forests alone, calculated at the lower estimate, or by the railways and canals together, at present prices.

Bank Amalgamations—Kinds of Banks in Operation.

There are no foreign banks in Finland. Only one bank amalgamation took place in Finland during 1918, namely, that of the Nylands Aktiebank and the Helsingfors Aktiebank. The share capital of the two together amounts to 15,000,000 marks. In addition, it was also decided to amalgamate the Foreningsbank and the Nordiska Aktiebank, but this decision was not put into effect until 1919. The share capital of the former was 45,000,000 marks and of the latter 50,000,000 marks.

Finnish Banks.

The banks in Finland are of the following kinds: (1) The Bank of Finland, which is the only bank of issue; (2) private banks; (3) savings banks; and (4) post-office savings banks.

The Bank of Finland was founded in 1811 and since 1867 has been under the control of the Popular Assembly and conducted on the

responsibility of that body. The interests of the bank are in the hands of a board of six members chosen by the Popular Assembly. Its activities are under the immediate control of the directorate, a body consisting of a chairman and three members, appointed by the Government. The Bank of Finland is the only bank in Finland that has the right to issue notes. In other respects it conducts banking business on the usual principles. At the beginning of the war the assets belonging to the bank amounted to about 100,000,000 marks, but during the war the bank was forced to exchange rubles against Finnish marks and suffered great losses thereby, as the rubles sank in value and could not be sold. It became necessary to write off large ruble sums in the coffers of the bank, and thus its assets were considerably diminished. In order to strengthen the position of the bank, the State granted it Government bonds to an amount of 350,000,000 marks without conditions. The position of the bank is regarded as solid.

There have been savings banks in Finland since 1823. At the end of 1918 they numbered 59 in the towns and 384 in the country—a total of 443. Their deposits amounted together to 746,667,299 marks.

The post-office savings banks have existed in Finland since 1887. At the end of 1918 the sums deposited in them amounted to 27,204,835 marks.

Fall in Finnish Exchange.

The chief causes of the fall in Finnish exchange are (1) the suspicion felt abroad that peaceful conditions are not yet established; (2) the present excess of imports over exports; (3) the diminishing purchasing power of Finnish money within the country.

The excess of imports over exports is partly due to the fact that when foreign trade was set free the country was flooded with foreign goods, and partly to the fact that the restrictions placed upon imports by a number of countries, together with other conditions, have rendered it impossible to sell more than a portion of the considerable stocks of wood and paper products accumulated in Finland.

The diminishing purchasing power of Finnish money within the country is due to the same causes as the decrease of purchasing power in most other lands; namely, the great increase in the stock of notes. In Finland, this increase is due chiefly to the fact that the Bank of Finland was obliged to buy in rubles at an unfavorable exchange. For this purpose it had to print notes in excess of the business requirements of the country. To some extent, though not so largely, the overissue of notes in Finland was caused also by the fact that owing to the revolution, the collection of national taxes had to be suspended, and the Government was therefore obliged to take an exceptional loan from the Bank of Finland.

Exchange Prospects.

Exchange in the future depends on certain political and financial considerations that can not be calculated with exactitude beforehand. The director of the Bank of Finland remarks: "So far as it is possible to see at present, the prospects of improving exchange are good." In normal times, Finland has been able to pay for its imports in a very satisfactory manner, through its wood and paper

products and its exports of agricultural produce, particularly butter. During the present year foreign goods have been imported in very large quantities, and the enormous demands caused by the interruption of foreign trade have been filled to a very large extent. It is therefore probable that imports will decrease. The importation of food also is likely to diminish, as the 1919 harvest has been exceptionally good. On the other hand, it is certain that exports will increase. For many reasons the exportation of Finnish wood products has been resumed only since the middle of the summer of 1919, but statistics show that it is rising month by month.

Direct Trade Between Finland and United States.

The Bank of Finland states that direct trade relations between the United States and Finland have not been particularly close. Before the war business between these two countries was carried on to some extent through English, German, and Swedish agents. A considerable direct traffic between the two countries, however, should be possible. It is true that Finnish exports (wood and paper products, butter, etc.) are sold mostly in the European market, but the United States as an exporting country could take an important place in the trade of Finland. Finland needs many American export wares, such as seeds, fruits, wool, cotton, leather, leather goods, oil, and metal articles. On the other hand, Finland could export at least large quantities of wood pulp, and in fact a fairly large amount of this article has been exported.

The present rate of Finnish exchange, however, forms a difficulty in the way of American exports. That difficulty could be overcome if American business firms could give credit to solid Finnish importing firms. To this end it would be necessary that a knowledge of the actual conditions in Finland should be disseminated in American business circles. Direct shipment to Finnish ports would be desirable in exporting goods to Finland.

In this connection it would be well to draw attention to the position occupied by Finland with regard to the transit trade to Russia. Finland is the nearest neighbor of Russia and knows the business methods and conditions in Russia better than does any other country.

Imports and Exports for 1915, 1916, and 1918.

Finland's foreign commerce in 1918 amounted to 687,619,548 marks ($85,952,443), of which sum 500,856,106 marks ($62,607,013) represented imports and 186,763,442 marks ($23,345,530) exports.

The following table gives the classes of imports and exports entering into the trade of Finland and their value for 1915, 1916, and 1918. The Finnish mark was converted at par ($0.193) for 1915 and 1916 and at 8 marks to the dollar for 1918. Figures for values are not available for 1917.

Classes of articles.	1915		1916		1918	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
1. Live animals	$56,900	$521,300	$293,600	$143,400	$2,241	$16,247
2. Meats and game	2,345,900	9,851,700	1,644,900	9,877,000	3,314,898	1,073,794
3. Fish, fresh, salted, and smoked	671,100	1,751,700	508,200	2,065,500	4,051,367	266,761
4. Cereals	28,713,600	212,300	39,891,400	291,200	2,861,658	67
5. Vegetables	748,800	28,200	498,700	17,800	5,631,142	.....

Classes of articles.	1915		1916		1918	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
6. Fruits and berries	1,605,400	175,600	3,071,400	108,700	266,086	87,750
7. Preserves and shellfish	257,800	117,500	317,700	177,400	2,587,416	37,866
8. Colonial products and spices	19,586,600	69,300	25,996,300	81,100	14,002,542	271,431
9. Beverages	1,201,000	11,000	1,071,700	4,800	194,406	.....
10. Drugs	293,000	3,700	500,600	4,800	355,966	376
11. Bones, bristles, etc	932,200	94,600	818,500	84,500	352,553	141,673
12. Skins, leather, furs	5,810,800	852,100	4,569,700	328,500	769,691	570,305
13. Plants, seeds, etc	7,131,500	934,900	8,046,600	652,500	1,428,500	301,895
14. Wood and wood manufactures	511,800	7,007,600	909,200	13,695,900	261,087	5,732,790
15. Paper pulp and paper	239,300	18,036,200	470,500	48,853,100	219,424	12,183,887
16. Spinning materials	7,997,000	2,100	16,208,500	18,500	1,290,152	140,330
17. Thread and cord	1,323,600	652,500	2,816,300	757,700	173,998	1,359
18. Textiles	3,225,200	1,885,000	8,720,100	3,489,800	4,937,857	189,770
19. Ready-made clothing	1,060,300	642,100	3,784,500	554,900	1,123,905	2,618
20. Gums and resins	3,510,700	93,800	5,460,400	473,800	825,083	852,507
21. Oils and greases	3,827,000	110,600	6,345,600	197,200	711,933	103,075
22. Perfumes	236,800	600	613,700	1,400	145,887	9,827
23. Minerals and manufactures	1,927,900	483,900	5,073,600	727,400	3,644,427	259,090
24. Chemical products	2,774,400	584,000	8,349,100	1,290,800	651,644	29,214
25. Explosives	310,900	123,300	335,400	1,316,100	426,605	96,208
26. Colors and dyes	934,900	97,900	2,538,300	291,200	783,478	35,890
27. Metals and manufactures	8,911,400	2,515,400	26,036,100	4,766,300	5,377,089	526,111
28. Machines, motors, and tools	3,659,700	933,500	8,112,200	4,812,100	1,387,805	214,565
29. Musical instruments, clocks, watches, etc	485,000	5,200	904,100	74,300	411,059	16,535
30. Vehicles	89,200	493,100	93,400	514,500	108,757	7,503
31. Ships and boats	185,500	1,019,600	304,700	285,600	7,549	2,700
32. Art objects	667,600	73,700	732,200	135,500	586,381	91,075
33. Articles of luxury	286,600	1,000	403,600	7,300	227,732	.....
34. All other articles	113,500	1,400	381,700	700	456,715	82,202
Total	111,632,900	49,396,400	185,823,100	96,101,300	62,607,013	23,345,430

There were no exports from Finland to the United States during 1918.

American Trade Suggestions—Warehouses for American Goods.

A warehouse established in Helsingfors for the storage of quantities of various American goods, with tariff to be paid only as goods are sold, suggests itself as a probably sensible business proposition. Only a small amount of capital from each of many firms of different lines represented, with a sufficient quantity of goods to make quick delivery as soon as bought, would be required. Such a miniature American wholesale city, where goods could be seen, bought, and promptly delivered, certainly presents advantages.

This proposition was brought to the attention of the Finnish authorities some time ago by an American agent, who might have been able to realize the project had he received sufficient encouragement. His idea was to establish such houses also in Reval, Riga, and Lubeck. The idea appears more attractive when future trade with Russia is considered.

Finnish-American Bank Considered Feasible—Salmon Cannery.

Since Finland has become an independent country, especially considering the enormous sums of money sent from Finns in the United States back to their native land, together with the financing of imports from the United States and the growth of Helsingfors as a transfer station for the future trade in the Baltic Provinces and Russia, the establishment of a Finnish-American bank appears

feasible. Finnish capital could easily be found to cooperate in such an enterprise.

It is remarkable that though Finnish waters abound in fine salmon there is no establishment for canning it; and yet salmon is consumed in great quantities, not only fresh, but in the tinned state as well. American and English canned salmon has a large sale in nearly all retail grocery houses. A salmon-canning factory properly established and managed in Finland would certainly pay.

Barber Chairs and Supplies—Furniture Factory.

The barber chairs in Finland are simple straight-backed armchairs. A Finn, who some years ago visited the United States, brought back four American barber chairs, and the Helsingfors shop where they are used in the busiest in the country. American barber supplies also should find a sale.

Considering Finland's forest wealth and the amount of furniture required it is very probable that an American furniture factory operating in Finland would be a paying enterprise. There is always to be considered the future trade of Central Russia and the Baltic Provinces.

Musical Instruments—Cottolene—Haberdashery and Millinery.

The Finns are lovers of music as well as of all other branches of art. A few American pianos and other musical instruments have been sold here, but there is quite a future for such a trade if properly managed. Phonographs should sell easily. The instruments now on the market are out-of-date, unsatisfactory, and unattractive. They came mostly from Germany, as did also pianos.

Lard is the only shortening used in baking. A substitute such as cottolene appears possible, though it would require demonstration, as such customs are difficult to change.

Haberdashery and millinery come in immense quantities from England, including hats, shirts, umbrellas, cravats, and hosiery, and in fact, by far the greatest portion of the men's and women's wear imported. All the dry-goods show windows are full of these articles. The finer grades of muslins, woolens, and silks invariably bear London trade-marks. There are English tailor shops, and the walls of every tailoring establishment are lined with cuts of English styles.

Books, Magazines, and Papers.

So great is the power of advertisement that it would probably pay American exporters to supply Finnish bookstores with American periodicals gratis, particularly those containing many and attractive advertisements.

The Akademiska bookstore in Helsingfors is one of the largest in Scandinavia. It carries in stock thousands of books and magazines in Finnish, Swedish, Russian, French, English, German, Italian, and Spanish: but beyond an occasional stray American magazine on its display table there is no book or periodical with an American imprint. The books by American authors appearing in English bear the names of Berlin and London publishers.

The German, English, and French news services cover this territory to the exclusion of the American. It is astonishing how seldom

New York or Washington appears as a headline. If there is an item of American news it generally appears with a London date line and begins, "It is reported from Washington that ——."

[The articles on Finland that have appeared in COMMERCE REPORTS since October 1, 1919, are as follows: October 1—Free Harbor Company Formed in Finland, Refrigeration and Supplies in Finland, and Trade and Industries of Jakobstad, Finland; October 2—Nursery Stocks in Finland; October 17—Finnish Trade and Financial Notes; October 29—Foreign Trade of Finland for June, 1919; November 5—Proposed British Loan to Finland Given Up; November 12—Finnish Mining Regulations for Foreigners and Modification of Finnish Exchange Restrictions; November 13—The Port of Helsingfors; November 15—Finland's Mineral Wealth and Trade with Finland and Esthonia; November 17—Electrical Development in Finnish District and Finnish Shoe Industry; November 19—Plan for Future Finnish Trade with Russia; November 21—Finland's Lumber and Cellulose Markets; November 24—Importance of the Baltic Door to Russia and Finnish Market for Leather; November 26—Market for Shoe Laces in Finland; November 28—Advertising in the Eastern Baltic Region; December 18—Finland's Industrial Progress.]

WASHINGTON : GOVERNMENT PRINTING OFFICE : 1919

UNIVERSITY OF FLORIDA
3 1262 08485 2150

UNIV. OF FL LIB.
DOCUMENTS DEPT.
ADD
U.S. DEPOSITORY